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SELF-CONCEPT OF THE SLOW LEARNING STUDENT IN L.Y. CAIRNS VOCATIONAL SCHOOL

by

© ANITA J. SOLDAN

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

AND RESEARCH IN PARTIAL FULFILMENT OF THE

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IN

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Date: June 24, 1983

To Mom and Dad

ABSTRACT

The purpose of this study was to investigate the self-concept of 123 slow-learning (EMH) students in a totally segregated vocational setting (L.Y. Cairns Vocational School). Information was sought regarding the relationship between; age, length of time in Edmonton Public School Board special education classes, IQ measured with the WISC-R, math achievement measured with the Wide Range Achievement Test-math, reading achievement, measured with the Schonell Silent Reading Test-A, general self-concept, measured with the Piers-Harris Children's Self-Concept Scale (The Way I Feel About Myself) and academic self-concept, measured with the Student's Perception of Ability Scale.

Specific research questions were:

1. What was the relationship between each of the variables and the 2 self-concept measures; between the 2 self-concept measures?
2. Were the general and academic self-concept scores stable over time (4 months) for year 1 and year 2 students?
3. Were the achievement scores (math and reading) stable over time (4 months) for year 1 and year 2 students?
4. Was there a difference between year 1 and year 2 students for each of the test measures over test time?

Testing was carried out in 3 test sessions over a 4 month period. The degree of relationship between variables was computed by a Pearson-product moment correlation. The stability of the mean test scores over time was determined through a single factor analysis of variance with repeated measures and a Pearson-product moment correlation.

Research Results

1. IQ, age, length of time in special education classes, math and reading achievement were not related in any strong statistically significant ($\alpha \leq 0.05$) fashion to general or academic self-concept.
2. A moderate statistically significant ($\alpha \leq 0.05$) relationship appeared to exist between the PH and the SPAS scales.
3. General self-concept (PH) scores for both year 1 and year 2 students were not stable over time (4 months)
4. Academic self-concept scores at the year 1 level were not stable over time (4 months). However, at the year 2 level academic self-concept scores were fairly stable over time.
5. Achievement scores on both math and reading measures for year 1 and year 2 students were stable over time.
6. No significant differences existed between year 1 and year 2 students' mean scores for any of the variables.

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CHAPTER 1

INTRODUCTION AND PROBLEM

L.Y. Cairns Vocational School opened its doors to educable mentally handicapped (EMH) students in the Edmonton Public School District in 1969. At that time "an educational program for the older pupil of limited ability" (Holt 1968 p.1) was a recognized requirement. This essential requirement was the basis in establishing the L.Y. Cairns program. The program was based on the founding principle that given an appropriate environment, students with special learning needs would develop their potential. Watson's 1972 research supported this principle - "different students do perform better in different types of schools" (Strathe and Hash, 1979 p.185).

The environment designed by Edmonton Public School Board administrators was a completely segregated setting. This setting consisted of unique features such as small class size, a special modified curriculum and vocational areas - all intended to meet the perceived needs of the educable mentally handicapped student. In addition to actual structuring of the external environment, the L.Y. Cairns curriculum was innovative. The program recognized the integral requirement for creation of a relaxed, happy, outlook and positive self-concept to allow for maximal

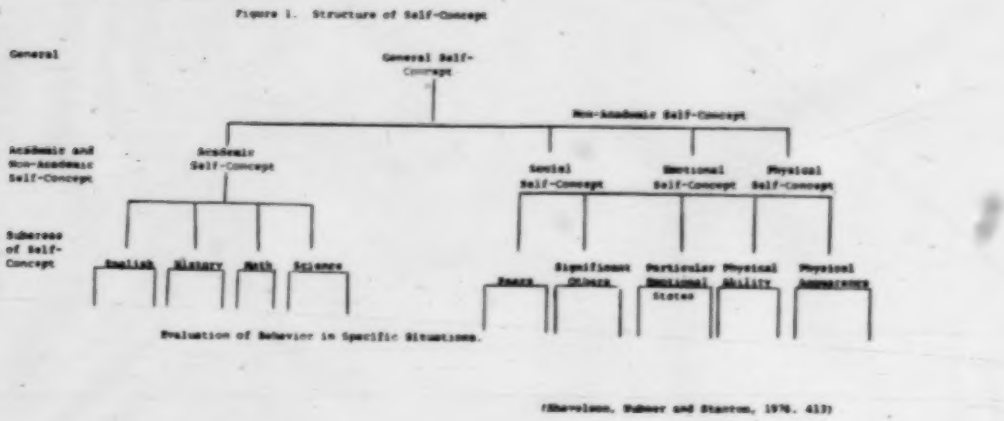
achievement. Holt, an initiator of the L.Y. Cairns program stated, "A successful program must first recognize the need for rebuilding the child's confidence and sense of worth." (Holt, 1968). Both goals, affective and cognitive, were consistent with the later (1980) mandated Alberta government curriculum for the educable mentally handicapped.

The effect of self-concept on student success and the important role of the school in altering self-concept was recognized by L.Y. Cairns and the Alberta Department of Education. L.Y. Cairns' commitment to self-concept development was established by making the principle central to the school philosophy and was consistent with Alberta's 1978 government goals of education. (Holt, 1978). The central question investigated through this study was: what was the self-concept of the L.Y. Cairns junior student?

For the purposes of this study, self-concept was defined as a person's perceptions of him/herself; formulated through interpretation of personal experience; influenced by the assessment and reinforcement of significant others, having the characteristics of being;

1. organized/structured,
2. multifaceted, and
3. hierarchical-moving from specific behavioral self-observations to more generally categorized observations to a

very general, evaluative and descriptive perception of self which is stable and distinct from other constructs. (Shavelson and Bolus, 1982). This definition is depicted in Figure 1.



Concerning the nature of self-concept, as defined above, lack of agreement among authorities generated much discussion and exploration in the educational field. Research specifically on the self-concept of the slow learning student, centered on the interrelationship of self-concept, school achievement and school environment. Research by Gergen (1971) and Hamachek (1971) supported the founding principles of L.Y. Cairns while other research indicated the relationship between self-concept and school achievement was not inevitable nor clearly uni-directional (Purkey, 1979).

General questions about the L.Y. Cairns program arising out of the conflicting research results were:

1. What were the general and academic self-concept of students entering L.Y. Cairns at the year 1 level and those in attendance at the year 2 level?
2. Did factors such as length of time in special education classes, IQ scores, and achievement levels, have any effect on self-concept scores, - both general and academic?
3. What was the relationship between general and academic self-concept?
4. What effect, if any did the L.Y. Cairns program have on self-concept?

These questions were investigated through the use of:

- a general and an academic self-concept inventory.
- IQ as measured by the WISC-R.
- achievement levels in math as measured by the Wide Range Achievement Test (WRAT-math).
- achievement levels in reading comprehension as measured by the Schonell silent reading test-A.
- length of time in special education programs provided by the Edmonton Public School Board.

Specific questions examined through this study included the following:

1. What was the relationship between the following pairs of variables?
   a. IQ and general self-concept for year 1 students and year 2 students.
   b. IQ and academic self-concept for year 1 students and year 2 students.
   c. general and academic self-concept scores over three test periods for year 1 students and for year 2 students.
   d. general self-concept scores and length of time in the L.Y. Cairns program for year 1 students and for year 2 students.
   e. general self-concept scores and achievement (math and reading) for year 1 students and for year 2 students.
   f. academic self-concept scores and length of time in L.Y. Cairns program for year 1 students and for year 2 students.
   g. academic self-concept scores and achievement (math and reading) for year 1 students and for year 2 students.
   h. age and general self-concept for year 1 students and for year 2 students.
   i. age and academic self-concept for year 1 students and for year 2 students.

2. Were the general self-concept scores stable over time (4 months) for year 1 students? for year 2 students?
3. Were the academic self-concept scores stable over time (4 months) for year 1 students? for year 2 students?
4. Were the achievement scores (math and reading) stable over time (4 months) for year 1 students? for year 2 students?
5. Was there a measurable difference between year 1 and year 2 students on:
   a. i. general self-concept for time 1
      ii. general self-concept for time 2
      iii. general self-concept for time 3
   b. i. academic self-concept for time 1
      ii. academic self-concept for time 2
      iii. academic self-concept for time 3
   c. i. achievement scores (math and reading) for time 1
      ii. achievement scores (math and reading) for time 2

Significance of the Problem

The Alberta Special Education Study, completed in the summer of 1977, reviewed research evidence into the efficacy of segregated versus integrated educational settings for EMH students. The bulk of the research did not support the existence of special segregated classes for the purposes of

self-concept development and motivation, personal adjustment or behavior change. Results of the research did not indicate which placement, segregated or integrated, was most effective in achieving cognitive objectives and academic success. In fact, the majority of findings suggested locus of instruction did not matter. The study continued on to state that possibly instructional variables were crucial to success rather than administrative arrangements. The only areas in which segregated classrooms were supported were in attitude change toward teachers and school and in social development and peer acceptance (Alberta Special Education Study, 1977). This evidence, coupled with the mainstreaming movement and the current economic climate in Canada could mean the end or severe limiting of special services for handicapped students.

If special programs did not have any significant effect on student achievement and self-concept or if there was a negative effect, their continued existence would not be justified. However, if special programs such as L.Y. Cairns did have a positive effect, the restriction or elimination of these programs would represent a critical loss to students and parents. This would result in a decline in the quality of education provided by the Edmonton Public School System.

Theoretical Assumptions

1. Self-concept as defined by Shavelson, Hubner and Stanton, 1976 provided a useful structure for interpretation of self-concept scale information.
2. Educational setting had a role in the development and/or change of self-concept.
3. School achievement was related to general and academic self-concept.
4. Slow learning (EMH) students entering a program such as the one offered at L.Y. Cairns had poor general and academic self-concept.
5. Low ability was related to poor self-concept.
6. Time spent in special education classes would effect general and academic self-concept.
7. General self-concept (PH) and academic self-concept (SPAS) were related.
8. The ages of 12 and 13 marked important boundaries in the self-concept development of the child.

Definition of Terms

Educable Mentally Handicapped. Educable mentally retarded, mildly mentally handicapped and slow learning student are all terms used to describe students enrolled in opportunity classes. The criterion for placement in an opportunity class was described under the definitions of primary and junior opportunity.

Primary Opportunity. An Edmonton Public School Board program designed to meet the needs of students between 5 1/2 and 8 1/2 years old. The student;

1. possessed WISC-R full scale score between 55 and 75 ±5 (neither verbal nor performance scores falling within the average range)
2. displayed delayed academic performance of two years or more on standardized tests in more than one area.

Junior Opportunity. An Edmonton Public School Board program designed to meet the needs of students between the ages of 8 1/2 and 11 1/2 years old. Students;

1. possessed WISC-R full scale score between 55 and 75 ±5 (neither verbal nor performance scores falling within the average range),
2. displayed delayed academic performance of two years or more on standardized tests in more than one area.

L.Y. Cairns Vocational School. A six year senior opportunity program provided by the Edmonton Public School Board. Students must be between the ages of 11 1/2 and 17 1/2 years old. The WISC-R full scale score of the students must fall between 55 and 75 ±5 with neither verbal nor performance scores falling within the average range coupled with a delayed academic performance of at least two years on standardized tests in more than one area.

Mathematics. A program designed to enable students to work independently at their own level of competency in practical basic skills areas such as computation, time, money and measurement.

Academic Self-Concept. As distinct from non-academic self-concept (Shavelson and Bolus, 1982) and centering for the purposes of this study specifically on the academic areas of general ability, arithmetic, school satisfaction, reading--spelling, penmanship--neatness, and confidence as defined by Boersma and Chapman (1978).

Operational Definitions

General self-concept. This term was operationally defined as the score achieved on the Piers-Harris Children's Self-Concept Scale. (PH). A high score on the PH indicated a positive self-concept while a low score indicated a negative or poor self-concept. A low score was designated as one falling under the 40 percentile of the norming population.

Academic Self-Concept. This was the score achieved on the Student's Perception of Ability Scale (SPAS). A high score indicated positive self-concept while a lower score indicated a negative self-concept. A low score was designated as one falling under the 40 percentile of the norming population.

Silent Reading Comprehension. This was the score achieved on the Schonell Silent Reading Test-A (Sc SLR-A). The raw score was converted to grade equivalent scores.

Mathematics Achievement. This was the score achieved on the Wide Range Achievement Test - Math (WRAT-math). The raw score was converted to grade equivalent scores.

I.Q.. This was the full scale score achieved on the Wechsler Intelligence Scale for Children - Revised (WISC-R).

Delimitations and Limitations

Delimitations.

1. The study examined the general and academic self-concepts of all but 7 year 1 and year 2 educable mentally handicapped (EMH) students in attendance at L.Y. Cairns Vocational School in the Edmonton Public School system. General and academic self-concept was measured by both the Piers-Harris Children's Self-Concept Scale and the Student's Perception of Ability Scale. The results were compared to I.Q., sex, length of time in special education programs, and reading and math achievement scores.
2. The study was limited to the first 4 months of the school year.
3. This study was intended as a descriptive survey of the self-concept of the slow learning student at L.Y. Cairns Vocational School.

4. Poor self-concept.

Limitations

1. As testing was done only on L.Y. Cairns junior students these results were not applicable to other programs ability levels or age groups.
2. All of the cautions accompanying the use of self-report inventories with regard to factors such as actual versus inferred self-concept and social desirability issues applied to these results.
3. Results were biased by the expectations of the investigator.

Overview of the Study

This study was divided into five chapters. Chapter One was intended as an introduction to, and description of, the problems and issues confronted in the examination of the problem. Chapter Two contained a review of recent literature related to self-concept achievment and the EMH student and a discussion of the test instruments used. Chapter Three focused on methodology. Chapter Four was a presentation of the test results. Chapter Five contained a summary discussion, as well as suggestions for further research.

CHAPTER 2

REVIEW OF THE LITERATURE

Literature pertinent to this study was reviewed in this chapter. Major areas to be examined were: Self-Concept - General and Academic, Self-Concept - Measurement, Self-Concept and Academic Achievement, Self-Concept and Educational Setting.

Self-Concept

Definition

Research into the self often failed to produce significant results or to clarify underlying theoretical processes (Scheirer & Kraut, 1979). While methodological and implementation problems played a role in the failure of research into the self to produce significant results (Scheirer & Kraut, 1979) underlying theoretical problems were far more serious (Lindsay, 1978). Lindsay observed,

> "While the importance of self-concept for educational and psychological consideration has been theoretically and empirically demonstrated, the construct itself has not been precisely and unambiguously defined with any consistency or general acceptance."
> (Lindsay, 1978 p.35)

This imprecision and ambiguity of self-concept definition made it difficult to specify a sample of test times which would be representative of the population of self-concept items and also an appropriate subject

population for each instrument or technique (Shavelson, Hubner and Stanton, 1976)

Thus, lack of a precise unambiguous definition of self-concept gave rise to methodological and implimentation problems and made self-concept research results difficult to interpret with any degree of confidence.

Lindsay felt:

> "What needs clarification is just what the researcher or curriculum developer means when referring to self-concept: Is it a summative, stable notion that is relatively permanent or is it a formative, changing notion that is immediate to a given situation? Is it the sum of one's self-perceptions or is it the individual's evaluation and organization of those perceptions? Until such clarification is provided, the continued emphasis on self-concept as an educational objective must be regarded questioningly" (Lindsay, 1978 p.35)

Several efforts by researchers to clarify the self-concept construct appeared to focus on differentiating self-concept from self-esteem (Calhoun and Morse, 1977) (Germain, 1978) (Beane and Lipka, 1980). Calhoun and Morse (1977) proposed 3 discrete concepts; self, self-concept and self-esteem. Self was defined as the sum total of what the individual was. Self-concept was the descriptive portion and self-esteem was evaluative portion and based on the individual's values.

Beane, Lipka and Ludewig (1980) saw self-concept as 1 of 3 dimensions of self: self-concept, self-esteem and values. They felt the addition of values was critical to

the definition and to educators as the priorities of educators and students didn't always agree. Educators should be aware of what qualities students valued in themselves in order to reinforce desired qualities accurately and meaningfully.

Other researchers (Lindsay, 1978) (Griffin, Chassin and Young, 1981) saw self-concept as far more complex. It was described as "multiple-role specific" or as Shavelson, Hubner and Stanton (1976) described it "multifaceted and hierarchical".

Shavelson, Hubner and Stanton (1976) presented a framework for self-concept which incorporated both definition and process. This framework was selected as the definition of self-concept for the purposes of this study. The definition as presented on page 2 of chapter 1 was: a person's perceptions of his/herself, formulated through interpretation of personal experience, influenced by the assessment and reinforcement of significant others, having the characteristics of being

1. organized/structured,
2. multifaceted,
3. hierarchical,
4. moving from specific behavioral self-observations
5. to more generally categorized observations

6. to a very general evaluative and descriptive perception of self which was
7. stable and distinct from other constructs. (Shavelson, Hubner and Stanton, 1976)

Research into the validity of this construct conducted by Shavelson and Bolus (1982) revealed support for the multifaceted hierarchical aspect of the construct. They also found the construct could be differentiated from achievement and that self-concept appeared to be causal in relationship to achievement. However, their research did not support the belief that self-concept became stable towards the peak of the structure nor that changes in self-concept operated from the base to the peak (Shavelson and Bolus, 1982).

Self-concept of the slow learning (EMH) student

A number of researchers specifically investigated the self-concept of the slow learning (EMH) student to determine how, it differed, if at all, from regular students.

Burt (1982), investigating the guidance needs of special students, found 229 EMR middle school students reported twice as many problems as gifted students. EMR students also reported a significantly lower self-concept on the PH and several other test instruments. She found the greater the number of existing problems, the lower the self-concept.

Clarke (1975) found EMR students had a lower self-concept than normal students on the PH and recommended special attention be focused in school on self-concept development.

In contrast, the Alberta Special Education Study (1977) felt there was an emphasis on development of the affective domain (self-concept) in special education settings. This was felt to explain low academic achievement of EMH students in special class settings.

Crockett and Guthrie (1975) found 120 grade 1 EMR students to have lower self-concept scores (PH.56.6 SD 9.2) as measured by the PH than non-EMR students (PH 65.35, SD 3.9) but not statistically significantly ($\alpha \leq .05$) lower. There was no relationship between IQ and self-concept. They also reported no significant ($\alpha \leq .05$) correlation (.376) between reading level and self-concept.

Beck, Roblee and Hanson (1982) found no significant difference among the PH self-concept scores of 13 EMR, 22 learning disabled and 47 normal students.

Thus, in 3 of the 4 cited research articles, the self-concept of the slow learning (EMH) student was found to be lower. There appeared to be no difference in measured self-concept between EMH and normal subjects in 1 articale only. No research information was found to support the concept of EMH students possessing a strong positive self-concept.

Self-Concept Development and Change

Some researchers, in attempting to clarify the nature of self-concept for both EMH and average students focused on developmental aspects of the self.

Ellis, Gehman and Katzenmeyer (1980) postulated a re-organization of self-concept boundaries (dimensions) near 16 years of age. Their findings supported a shift from external to internal standards of achievement. At 13 - 15 years of age the student rated him/herself according to external measures of achievement (peer feedback, grades). Around 16 years of age the self-concept of the adolescent began to change. By the age of 17 or 18 the adolescent was rating him/herself "on internal standards of personal happiness" (Ellis, Gehman and Katzenmeyer, 1980 p.15).

Porter (1980), in studying the effect of vocational instruction on 70 EMH adolescents found them to be internally motivated (self-directed). Porter felt that in order to increase the effectiveness of learning, these students needed to develop an external locus of control (others directed).

This appeared to be somewhat in contradiction with Ellis, Gehman and Katzenmeyer's (1980) observations regarding changes in self occuring during the adolescent period. That is, adolescents initially motivated by the reactions of significant others such as teachers, parents

and peers became motivated by internal reactions.

Beane, Lipka and Ludewig (1980) theorized different value bases for self-esteem between elementary and secondary (adolescent) students. Elementary students were thought to value positive, fun, instructional learning activities under the supervision of a teacher. Adolescents were felt to value a learning structure which encouraged peer interactions and provided learning experiences which aided in development of life plans.

Beane, Lipka and Ludewig (1980) also observed a shift in definition of significant others from adults to peers during adolescence. They stated, as educators, based on this observation "... the longer we delay efforts to enhance self-perception or perhaps to hinder them, the more difficult our role becomes". (p.84)

The above researchers all observed some form of change in self structure occuring in early-mid adolescence. The following researchers found evidence to support the conceptualization of self-concept as stable sometime prior to junior high.

Piers (1976) co-author of the Piers-Harris Children's Self-concept scale, stated the self-concept was stable by the age of 8.

Erhartic (1977) found global self-concept as measured by the PH had crystalized prior to junior high school. This

suggested intervention programs geared towards self-concept change would be most effective prior to junior high. However, a positive but not statistically significant increase in low self-concept group scores of first year junior high school students was observed. This suggested some instability in measured self-concept in early adolescence.

Research supporting the self-concept as stable during adolescence was contrasted with the following research in which self-concept was found to be unstable during adolescence. In addition, the effects of perception and expectation on self were included.

Quade and Trusov (1980) found, in working with 14 year olds, that just the awareness of differences in teachers and peers' perceptions from their own resulted in a shift in self-esteem. Within the Shavelson, Hubner and Stanton (1976) model of self-concept, a change of this sort could result in a corresponding change in self-concept. Ease of change appeared to be influenced by whether the self-concept was being increased or reduced (Quade and Trusov, 1980).

Marjoribanks (1980) observed lower ability students to experience high school related anxiety and have low expectations of educational success in spite of perceiving the school environment as a positive place. Perception plus individual characteristics (self-concept) were thought to

influence school outcome.

Jopt (1979), in dealing with individuals of low self evaluation, found perception of task difficulty interacting with self-concept to produce motivation (or lack of it) in tackling a task.

Detjen (1976) investigated the potential use of the "self-fulfilling prophecy" to enhance the self-concept of 78 junior high school students thereby improving achievement and attendance over 4 months. After being tested on a 10 item test, the students were informed that their IQs were well above average. No significant correlations ($\alpha \leq .05$) were found in a 3-way-analysis of variance on gain scores with regard to the "self-fulfilling prophecy" achievement and attendance. There were significant F ratios with regard to several items of the inventory. A direction of change was noted between group and sex under a 2-way-interaction (.052). Several significant E ratios ($\alpha \leq .05$) were acquired for some interactions with scores for attendance. Detjen concluded the "self-fulfilling".

Hayden (1979) found change in current self-concept to occur if change was seen as increasing the meaningfulness of the current self-concept in relation to desired self-concept.

Stewart, Crump and McLean (1979) investigated response instability on the Piers-Harris Children's Self-Concept

Scale with 60 junior high and 60 elementary learning disabled students (mean IQ = 88.7 standard deviation = 16.0). They found "considerable item instability when reporting self-concept" (Stewart, Crump, McLean, 1979 p.354) at both elementary and junior high levels. Comparison of the 2 groups regarding response instability, revealed no significant differences. Assuming response instability suggested in perception of self the hypothesis regarding crystalization of self-concept just prior to adolescence might not be accurate. That is "Perhaps the self-concept of junior high learning disabled students is quite fluid and susceptible to change particularily when considering the developmental tasks of preadolescence and adolescence". (Stewart, Crump and McLean 1979 p.354)

Watson (1979) observed possible significant change in self-concept occuring in young adolescents as early as the first semester in attendance at an alternate junior high school.

Self-concept Measurement

Difficulties with definition of self-concept affected the construction and administration of test instruments. Shavelson, Hubner and Stanton (1977) pointed out it would be very difficult to select items for a test and to select the population to administer the test to if the construct measured was not well defined. Definitions of self-concept

abounded along with test instruments to measure them. Thus, due to lack of consistent definition of self-concept, interpretation and comparison of test results was to be approached with caution. Individuals might be reponding out of;

1. lack of understanding of the item,
2. lack of interest, thought or unwillingness to reveal information, or
3. the wish to appear socially desirable.

The resulting scores, while often read as actual self-concept, were in fact, inferred self-concept.

Lack of adequate, concise, consistent self-concept definition left the meaning of the resulting score particularly global self-concept scores (Lindsay 1978) (Griffin, Chassin and Young, 1981) in question.

Smith (1978) observed that most self-concept scores were additive, with high scores indicating good self-concept and low scores poor self-concept. This was not necessarily so according to Smith (1978). The scales weight all subscales equally while individuals do not value all areas tested equally. Thus a low score on one subscale of no importance to an individual would mask the very positive feelings an individual might have about him /herself in another area. The resulting self-concept score would be neutral or next to meaningless. This lends support to the

use of situation specific self-concept scales instead of global scales.

Given the difficulties in measurement of self-concept, Stewart and McLean (1979) were prompted to suggest that global self-concept measures such as the Piers-Harris be used to assess classroom climate rather than to measure an individual's self-concept.

For the purposes of this study two self-concept measures were employed: the Piers-Harris Children's Self-Concept Scale (The Way I Feel About Myself), and the Student's Perception of Ability Scale.

The Piers-Harris Children's Self-Concept Scale (The Way I Feel About Myself)

The Piers-Harris (PH) was developed in 1964 by Ellen Piers and Dale B. Harris. It underwent 2 revisions prior to the existing form.

The scale consists of 80 self-referent declarative statements such as "I am easy to get along with". The questions are forced choice in nature with 1/2 of a positive nature and 1/2 of a negative nature. It is a group test for use with grade 3 to 12 students. When read out loud it can be used with younger groups. Administration time is 15 - 20 minutes. Scoring provides a global score and 6 subscale scores. High scores indicate positive self-concept.

The scale is normed on 1,183 students, grade 4 - 12 and has been used with a wide variety of samples including an educable mentally handicapped group.

Reliability information is attained from the initial standardization study. Homogeneity of the test is assessed through use of the Kuder-Richardson formula 21 with resulting coefficients ranging from .78 to .93. The Spearman-Brown odd-even formula is used with grade 6 and grade 10 segments of the sample. Resulting coefficients are .90 and .87 respectively (Piers and Harris, 1969, p.4). Test-retest reliability coefficients are between .71 and .77. According to Bentler (1972) the upper limit could be closer to .85 due to the length of the retest period (4 months).

In a test-retest situation a change of 5 points could be expected without any intervention (Piers-Harris, 1969 p.5). The authors recommend a minimum 10 point retest score change before considering the results significant for practical purposes (Piers-Harris, 1969).

Validity of the instrument is acquired through;

1. teacher and peer validity, (the resulting correlation is .40) (Bentler, 1972),
2. concurrent validity with other self-concept instruments resulting in correlations ranging from .40 to .85 at $\alpha \leq .01$,

3. validity with IQ measures resulting in either no significant results or positive but low correlations.

The scale, recommended for use in the study of self-concept change is said to be one of the best instruments in existence for measurement of self-concept (Stewart, 1979). However, Woodich (1975) commented, regarding the use of the PH to predict academic achievement, that self-concept measures contributed little to current knowledge. The Piers-Harris scale is widely used. Of 30 recent articles researching general self-concept, 12 used the Piers-Harris to collect self-concept information.

The Piers-Harris is felt to "support a multifaceted view of self-concept with general self-concept (total scores on WIFAM) a stable characteristic of the individual. Data from the WIFAM bearing on the hierarchical characteristics of self-concept have not been reported. Likewise, data that would bear on the developmental aspect of self-aspect have not been reported." (Shavelson et al, 1976 p.431) Thus data to support all aspects of the Shavelson et. al. self-concept construct is not available.

The Student's Perception of Ability Scale

The Student's Perception of Ability Scale is used to attain a measure of academic self-concept specific from general self-concept. It is developed in response to

inconclusive research finding on the relationship between school achievement and self-concept. Boersma and Chapman (1977) observe that most self-concept inventories include academic or school related self-concept items as only one small part of the more global self-concept measure. Many researchers support the need for a self-concept instrument focusing specifically on academic self-concept (Boersma and Chapman, 1977). The Student's Perception of Ability Scale is Boersma and Chapman's response to that need. This scale is designed as a research instrument in the area of self-concept and school achievement. More specifically it is suggested for use in evaluation of affective components of special programs and assessment of accuracy of student self perception of achievement and actual achievement.

It underwent one major revision prior to publication in 1977. The scale consists of 20 self-referent declaratives such as "I am good at drawing." The questions are forced choice in nature 1/2 of a positive nature and 1/2 of a negative nature. It is a group test for use with students grade 2 - 6 (ages 6 - 12). Administration time is 15 - 20 minutes, possibly longer with younger students. Scores are provided through a global score and 7 subscale scores dealing with perception of general ability , arithmetic ability, general school satisfaction, perception of reading and spelling ability, perception of penmanship and neatness

and confidence in academic abilities. The scale is normed on 642 students grade 2 - 6 and has been used with learning disabled and educable mentally handicapped students.

Reliability information is obtained through the use of Cronbach's alpha with grade 2 - 6 students. A correlation coefficient of .915 is achieved for the full scale score. Subscale score (Arithmetic, Reading/Spelling, Penmanship/ Neatness, General Ability, School Satisfaction and Confidence) correlations ranged from .686 and .855 on the same group of students.

For a test-retest reliability period of 4 - 6 weeks the stability coefficient is .834. Subscale test-retest coefficients range from .714 - .824. Standard errors of measurement are calculated for the total study, for sex and for sex and grade level "using test-retest correlation as the reliability estimate except for grade 2 where estimates of internal consistency were used" (Boersma, Chapman, 1977 p.32). One half confidence levels for the full scale and each subscale are presented in the manual for each grade.

Validity of the instrument is estimated by determining its relationship to;

1. cognitive variables,
2. learning disabilities,
3. school-related affective variables and

4. the perceptions and attitudes of significant others specifically mothers and teachers and peers. (Boersma and Chapman, 1977).

To determine "discriminant validity" the Piers-Harris Children's Self-Concept Scale and the SPAS are correlated for 622 children. Correlation coefficients between the SPAS and the PH full scale and subscale scores range from .029 to .078 with none being significant at the .05 level indicating the scales measure two different domains (Boersma and Chapman, 1977). According to Boersma and Chapman this supports the view of self-concept as multi-faceted and as such, best examined at a situation specific level. (Shavelson et al, 1976). SPAS scores, report card marks and scores on the Wide Range Achievement Test (Jastak, and Jastak, 1976) are also correlated to provide information regarding the relationship of academic self-concept and school achievement. The correlation between the full scale score and report card marks are .489 with correlations of .336 to .434 for the subscale scores. Correlations between the WRAT and the SPAS range from .26 - .42. Boersma and Chapman considered this evidence of "moderate and relatively, consistent relationships" with school achievement as assessed by report card grades and standardized achievement tests.

The SPAS scores are also correlated with a number of intelligence tests, including the Wechsler Intelligence Scale for Children - Revised (Wechsler, 1974 - WISC-R) The correlations range from .130 to .295. These correlations indicate a "low to negligible relationship with IQ scores, suggesting that perceptions of academic ability are relatively independent of intelligence" (Boersma and Chapman, 1977). When used with special education students the SPAS full scale score measure change in academic self-concept and discriminate between special students and normal students. Finally, correlations between the SPAS and school-related variables such as children's, mother's and teacher's expectations as assessed with the Intellectual Achievement Responsibility Questionnaire, and the Projected Academic Performance Scale, are .300 to .659 and considered to indicate a moderate relationship (Boersma and Chapman, 1977).

Much of the validation of the Student's Perception of Ability Scale focused around school achievement as the SPAS is considered a measure of academic self-concept.

The next section of this chapter deals with the relationship between self-concept both general and academic to school achievement.

Self-Concept and School Achievement

Another theoretical issue presented itself in review of the literature. This was the issue of causality. Shavelson and Bolus (1982) found self-concept to be causally dominant over achievement whereas Calsyn (1977) found achievement to be causally predominant over self-concept. Others did not specify directionality merely indicating that a relationship between the two existed (Calhoun and Elliot, 1977) (Crockett and Guthrie, 1975) (Boersma and Chapman, 1977) (Burns, 1979) (Den Broeder, 1976). Burns elaborated on the nature of this relationship in the following statement:

> "At the present state of knowledge it seems reasonable to assume that the relationship between self-concept and academic attainment is reciprocal, not unidirectional. Academic success raises or maintains self-esteem while self-esteem influences performance through expectations, standards, recognition of personal strengths higher motivation and level of persistence. There is a continuous interplay between the benefits gained from self-esteem increasing the liklihood of increased competencies and academic success and the influence of academic success on increasing confidence, expectations and standards. This is obviously a beneficient cycle if both or even one side of the sides of the equation is fairly positive, however a destructive cycle is set in motion when one or both are at a low level, with low self-esteem undermining confidence and low expectations or with poor performance levels reducing self-esteem." (Burns, 1979, p.283).

Erhartic (1978) found no relationship between self-concept and academic achievement over one year.

Gose, Wooden and Muller (1980) found that content-area-specific-measures-of self-concept could be used to predict academic success however, no statement was made with regard to causality.

Self-Concept, School Achievement and the EMH Student

Woodich (1975) found that while self-concept as measured by the PH and achievement of the EMH student were related in a weak positive, almost negligible fashion, neither self-concept or achievement seemed causally predominant.

Wolf and Wenzl (1982) found a positive relationship between self-concept as measured by the PH and math and reading as measured by the WRAT-reading, spelling and math for EMH students. At $\alpha \leq .01$ they acquired a correlation of .48 between self-concept and reading and with $\alpha \leq .05$, a correlation of .34 between self-concept and math.

The mean PH self-concept score, for the 27 EMH students was 55.63. When compared with the scores obtained on the norming population, this mean was transformed to a percentile score of 57.

The mean standard score, acquired on the WRAT-math by the EMH students transformed to a grade score, these students were found to be functioning at a grade 2.2 level.

Wheeler and Reilly (1980) demonstrated that a significant ($\alpha \leq .05$) positive relationship between self-

concept of 30 EMH students and math and reading did not exist as was indicated by correlations of .16 to .43 on the math measure; -.50 to -.07 on read recognition and -.09 to .14 on reading comprehension.

Wylie (1974) observed that poor academic skills could very well cause poor self-concept. Thus, results of research regarding causality and the relationship between self-concept and achievement was inconclusive.

In order to examine the relationship between self-concept both general and academic and achievement of the slow learning students (EMH) at L.Y. Cairns, 2 achievement measures were used: the Wide Range Achievement Test - math (WRAT-math and the Schonell Silent Reading Test - A. (Sch-SLR-A).

The Wide Range Achievement Test

The Wide Range Achievement Test was developed in 1936 and was revised in 1946 and 1965 by J.F. Jastak and S.R. Jastak. Level 1 of the 2 levels available was used for this study. There are 3 subtests in the WRAT - battery - spelling, oral reading and math.

The math test consists of two parts; an oral and a written section. The oral section is administered individually only if the student cannot read the first question on the written section. There are 43 questions in total on the written test and 20 on the oral. Examples of

questions on the written section are: 1 + 1 = , 6 ÷ 3 = . They range in difficulty from kindergarten to grade 12. The test is 10 minutes in duration and administered as a group test. Raw scores are converted to grade scores. The test norms collected over a period of 20 years in the United States includes both children and adults ranging in age from 5 to 65. The total sample size is 5,933.

Reliability is measured in several ways. Only the information relevant to the WRAT - math will be reported. Scores on numerous homogeneous populations over 20 years are compared. Correlations from .85 to .92 are acquired. Split-half correlation coefficients and standard error of measurement are achieved for each group at each age level and with each test level of the 1965 version. Sample size for each group was 200. The split-half measures are odd even scores.

The test was used intensively in a test-retest fashion with 77 educable mentally handicapped students over a 3 week period with 4 other standardized tests. The WRAT scores were found to vary the least of all 5 tests indicating stability. Coefficients were not reported.

The authors used four methods to establish validity of the test;

1. correlation of the WRAT with external criteria such as age.

2. correlation of the WRAT with intelligence ratings.
3. correlation of the WRAT with other achievement tests.
4. factor analysis.

(Jastak and Jastak, 1977)

WRAT raw scores were correlated with the WISC-R IQ among 5 groups of individuals. One of the groups consisted of 91 educable mentally retarded adolescents. Correlations were not reported in the manual. However, the following is an exerpt from the tables of information which was provided.

Retarded

Adol. and Adults

N = 91

WISC	M	SD
Verbal	65.54	11.04
Performance	64.16	13.52
FS	62.56	11.22

WRAT	M	SD
Reading	67.52	9.32
Spelling	67.33	9.00
Arithmetic	66.78	8.24
Age(in yrs)	19.38	9.75

(Jastak and Jastak, 1965, 16)

Correlation of the WRAT-math with the New Stanford Math on a sample of 140 7th and 8th graders produced a correlation coefficient of 0.91. Murphy, using the same tests on 105 grade 5 and 135 grade 6 students achieved

correlations between grade and the WRAT-math of .641 and .560, among the WRAT-math, Stanford and grades ranging from .350 to .679. He concludes from these results that;

1. there is a strong relationship between math grades and scores and the WRAT,
2. the WRAT is a reliable prediction of changes in instructional level,
3. at the sixth grade level the WRAT and Stanford appear "complimentary rather than similar",
4. very high functioning or very low functioning people are most easily identified by the WRAT.

Cross validation by comparison of the 3 parts of the WRAT both levels on 1400 people ranging age from 5 to 11 (200 at each age level) produced correlations ranging from .691 to .938 for level 1.

Correlation of WISC-FS IQ scores with level one WRAT arithmetic scores ranged from .71 to .77 for a sample of 544 children ranging in age from 5 to 15 years.

A "clinical factor analysis" of the WRAT subtests on a sample of 544 students ages 5 - 15 was performed "by successive regressions and score transformations in such a way as to obtain individual scores for each factor as it is extracted from the test comparisons" (Jastak and Jastak, 1965, p.21). The WRAT subtests were combined with the WISC subscale scores. The factors analysed were: the general

factor and verbal reality, motivational, somatic, affective and cognitive factors designated "group factors".

The following are the percentages of variance of each of the factors for the WRAT-math subtest:

Factor	Percentage of Variance
General	28%
Verbal	4%
Reality	-
Motivation	27%
Somatic	-
Affect	-
Cognition	13%
Specific	15%
Error	13%

The Schonell Silent Reading Test-A

The Schonell Silent Reading Test-A is used as a measure of reading achievement. It was published in 1942 and revised in 1946, 1951 and 1955. The author is Fred J. Schonell. The test is composed of 18 short paragraphs of increasing difficulty. Questions accompany each paragraph. Two sample questions are provided prior to the start of the test. It is a 9 minute test. An example of the nature of the questions is as follows:

> "I can skip. I go to school everyday. I wear a pretty dress. I have long hair. What am I?"

The raw score is transformed to a grade score. Scores are separate for boys and girls.

The Schonell Silent Reading Test-A is 1 of 7 subtests. It is normed on 1,865 students ranging in age from 6 - 13. One observation made by Pringle (1953) is that pre-war norms differ from post-war norms with no explanation by the author. No information about the subjects is provided.

Estimates of the relationship between the Schonell Silent Reading Test-A and general intelligence based on a sample 6 of 210 children ages 8 - 11 provides reliability correlation coefficients ranging from .67 - .86. The number in each age group is small (40 - 63). New norms are not available. (Pringle, 1953). The use of separate answer booklets is considered a problem when used with slow or poorly coordinated students as it is somewhat confusing and consequently discouraging. As a result of this observation L.Y. Cairns restructured the test booklet according to the recommendations made by Pringle (1953) in his test critique. The Schonell Silent Reading Test-A has been used at L.Y. Cairns for a number of years as a measure of reading comprehension.

According to Pringle (1953) this test is constructed "to indicate superficial defects in acquired skills rather than to push the diagnosis deeper into the underlying causes of reading difficulties." (Pringle, 1953)

In addition to the preceding achievement tests the Wechsler Intelligence Scale for Children - Revised was used

to attain an IQ measure for comparison with self-concept measures.

Self-Concept and Intelligence

The Wechsler Intelligence Scale for Children - Revised (WISC-R) was developed by David Wechsler in its first form in 1939. It was revised in 1950 and was named the Wechsler Intelligence Scale for Children. In 1974, it was again, revised and renamed the Wechsler Intelligence Scale for Children - Revised (WISC-R).

The WISC-R is given as a full scale IQ score and also in two parts; verbal and nonverbal. It contains 10 sub-scales; consisting of information, comprehension, vocabulary, block design, mazes, coding, arithmetic, similarities, object assembly and picture completion. Administration requires 50 - 75 minutes and must be carried out individually by a trained individual. Norms are based on a sample of 22,000 Americans ranging from 6 years 0 months to 16 years 1 month. Measures of reliability are attained through the application of split-half reliability coefficients for each subtest, the verbal score, performance score and full scale score. Reliability coefficients for full scale scores at 3 age levels (7 1/2, 10 1/2 and 13 1/2) are .92, .95 and .94 respectively. Test-retest reliability on the full scale score over 1 month was reported to have ranged from .92 - .95.

Validity of the WISC-R is not discussed in the manual. Other researchers have found concurrent validity coefficients between WISC-R scores and achievement tests and other academic criteria clustering around .60. The manual reports intercorrelations among individual subtests with the verbal, performance and full scale scores. Correlations given for 200 cases at each of the 3 age levels 7 1/2, 10 1/2, and 13 1/2 of the standardization sample are .60, .68 and .56.

The WISC-R was used in several recent articles dealing with self-concept and the educable mentally handicapped. Crockett and Guthrie (1975) found no relationship between IQ and self-concept among EMR students but a high relationship between IQ and self-concept among non-EMR students.

Grossman and Clarke (1982) tested the predictive validity of the WISC-R full scale score as related to the WRAT reading, spelling, and math subtests for 61 9 - 16 year old EMH students and found the WISC-R did not yield a valid prediction of achievement as measured by the WRAT subtests. Smith (1979) examined the relationship between the WISC-R and reading performance with learning disabled students and found little relationship to self-concept.

Self-Concept and Educational Setting

Much research had been done into the effects of arrangement the of educational setting available to slow

learning students to achieve:

1. peer acceptance,
2. attitude towards school, teachers and social development,
3. self-concept development,
4. motivational, personal adjustment and behavior change,
5. cognitive development and academic achievement,
6. cognitive objectives,
7. academic success.

The Alberta Special Education Study reviewed the literature with regards to the impact of segregated versus integrated settings on the above objectives. They found no support or inconclusive support for the use of segregated settings for EMH students in achievement of personal adjustment motivational and behavior change, academic success, cognitive development and objectives; minimal support for development of self-concept; moderate support for change in attitude towards school teachers and social development and strong support for peer acceptance objectives.

For the purposes of that study and many dealing in this area, a segregated setting referred to a self-contained classroom in a regular school setting. A modified curriculum paralleling the regular curriculum was provided

at a decelerated rate to accomodate the slower learning rate of the EMH student (about 1/3 - 1/2 a grade level in reading and math achievement per year).

In spite of the segregation and modified curriculum, a significant improvement in self-concept and achievement was not consistently observed.

Carlberg (1980) in a meta-anlysis of 50 primary research studies, found special classes to be significantly inferior educationally to regular classes for below average IQ students.

Calhoun and Elliot (1977) found that data from the Piers-Harris and Stanford achievement test indicated that regular classes were significantly more effective than special classes in improving self-concept and achievement. Lister (1975) concluded that perhaps the placement model was not the primary determinant of academic achievements or self-concept for the EMH student. Boersma, Chapman and Battle (1979) felt that self-concept measurement results were more due to homogeneous or heterogeneous grouping than a result of the programs. In other words, peer group influence played a significant role in self-perception.

Rheinberg and Enstrup (1977) found that children in special schools demonstrated better self-concept of mental ability and less test anxiety than children in normal schools.

Kehle and Guidubaldi (1978) found that self-contained settings where students were grouped according to similar cognitive abilities provided a stronger social support system resulting in fewer social problems.

Casparis (1978) observed that, within a special school setting, the labels attached to EMR students weaken and reversed under the effect of the reference group particularly, if they were more intelligent than the others.

This effect was also observed by Boersma, Chapman and Battle (1979) with regard to peer group influence. They reported:

> "Strang, Smith and Rogers (1978) observed self-concepts of academically handicapped children were influenced by whether special class placement was full or part time. Self-concepts tended to be higher when other children with learning problems were the main reference group and to decline when self-comparisons were restricted to regular class children." (Boersma, Chapman, Battle, (1979, p.434).

Concern voiced by Casparis dealt with the effect of returning to the regular stream of society upon graduation from a special school. He observed a lowering of self-concept at that point.

Wheeler and Reilly (1980) investigated the relationship between academic achievement and self-concept of EMR students and speculated on the effect of setting on their results. They felt that institutionalization might have been the main causal factor for lack of significant positive

correlations between self-concept and achievement. They drew this conclusion based on their observation of conflicting self-concept scores. That is, some subjects reported high self-concept and others, low. This conflict was thought to be the result of differing student perceptions of institutionalization. High ability students, being on top of the heap, so to speak, within the institution felt good about themselves while low ability students, near the "bottom of the heap' felt bad about themselves. They concluded that more research was needed into the effects of setting on self-concept and achievement of EMR students.

Meyers (1976) carried out an investigation of the effects of 3 different school settings on achievement and self-concept of slow learning (EMH) students over a 1 year period. He used the WRAT as a measure of achievement and the Piers-Harris as a measure of self-concept and social adjustment. The Slosson Intelligence Test was used to measure IQ. He divided the students into 2 ability groups, high IQ (71-85), low IQ (49-70), within 3 school settings - special school, special class and regular class. Each of the groups contained 30 students. Age of the students was not reported. Statistical analysis of the groups revealed that low IQ students increased reading and spelling scores and had higher self-concept than in special class or regular

class low IQ students. The high IQ students showed no significant differences among the 3 settings on every measure except reading where high IQ regular class students did better than high IQ students in special class, but not better than high IQ students in the special school.

Among his conclusions regarding the findings, he reported that the regular class model was not clearly supported and the special school held promise for EMR students. Among his recommendations was the need for further longitudinal research into the efficacy of the special school setting and that factors other than setting, class climate and subgroupings be considered.

While a large segment of research focused on the effect of setting, another segment focused on the effects of curriculum - specifically the vocational curriculum.

Meridith (1975) compared the self-concept of vocational and non-vocational junior high students over 8 months and found an increase in mean self-concept of the junior vocational students, as compared to a decrease in the mean self-concept score of the non-vocational students. The study did not address itself to cause-and-effect relationships but it was recommended that the relationship between student's self concept and attendance at a vocational school be further investigated.

Ricks (1976) found that participation in a 15 week career orientation program produced an improved self-concept. She suggested that the results could imply that making a career choice aided one in defining oneself better in the context of society. This improvement in definition resulted in an improved self-concept.

Wenger (1978) examined the degree of congruence between actual and ideal self in EMR students in a work study program. He found that the degree of congruence between actual and ideal self-concept positively correlated with progression through the program. An increase in self-knowledge was attributed to the increase in congruence.

In contrast to the previous positive literature, Egginton (1978) found participation in vocational education programs to be ineffective in developing a positive self-image among the "most alienated" of adolescents - minorities and lower income students. He stated that vocational students held themselves in very low esteem and did not value their education.

Dick (1973) investigated the effects on the self-concept of EMR adolescents in 4 different vocational settings. These settings ranged from a fully integrated school to completely segregated classes within an average vocational school. A completely segregated vocational school for EMR students only was not included. He found the

self-concept of the EMR students, as measured by the Tennessee Self-concept Scale, were not significantly effected by any of the 4 settings. Dick recommended that;

1. Because self-concept of the adolescent appeared stable and personality change occured more easily at a younger age, early positive experiences were necessary for the development of strong self-concept.
2. The concept of work should assume an important part of the development of this self-concept.
3. He also recommended that the EMR be allowed to "lose his identity as an EMR student" (Dick, 1973) by taking part in classes with "normal" peers and to be viewed as one of the group.

Porter (1980) found that vocational instruction of 70 mentally handicapped junior high students fostered academic growth. He suggested that the students had the academic skills but had not developed them due to lack of motivation or reinforcement. The desire to carry out responsible "job performance tasks" provided the necessary motivation to learn the academic skills needed. He concluded that vocational settings provided the environments which fostered academic growth through application of basic skills.

Results of research into the effects of vocational settings on self-concept and achievement of EMR students

while predominantly positive was inconclusive. As Childs, (1981) observed:

> "Research should be initiated in order to compare the efficacy of the regular class curriculum as a program for EMR children versus a life function survival type of curriculum that accents personal social and vocational adequacy." (Childs, 1981, p.227).

CHAPTER 3

METHODOLOGY

The purpose of this chapter was to describe the subjects, selection procedure, grouping of the subjects, design of the study, testing procedures, data collection and data analysis.

Subjects

From the L.Y. Cairns Vocational School, 123 junior students assisted in this investigation into the self-concept of slow learning (EMH) students. The junior student body was composed of Year 1 and Year 2 students. Year 1 students totalled 53 and were each 12 years old as of September 1, 1981. The remaining 70 students were Year 2 students, and were 13 years old as of the same date. While 5 students were absent due to physical and mental illness, or home problems, 1 was absent due to confinement in a government detention centre, and 1 moved from the Edmonton Public School System during the test period. Of the 53 year 1 students who assisted in this study, 21 were female and 32 were male. Of the year 2 students, 27 were female and 43 were male. All of the students met the entrance criterion. IQ (WISC-R) scores ranged between 55 and 75±5. Achievement levels ranged from kindergarden to mid-grade 4 in both math and reading.

Selection Procedure

The selection procedure for placement in L.Y. Cairns began in the students' home schools with their classroom teachers. Through classroom observations, the students were singled out as having difficulties of both an academic and social/emotional nature. After discussion with the counsellor and principal, a referral was made to the Bureau Services team in the home school sector. Bureau Services consisted of twelve sectors throughout Edmonton, each sector servicing a number of schools within a physical region. Each sector team consisted of a school psychologist, a school social worker, a reading specialist and a speech/hearing/language specialist. The role of these individuals involved direct work with the student in testing situations, parent conferencing provisional assistance to the teacher and school in planning programs, some actual teaching and therapy and the recommendation of alternate or future placement.

Factors taken into consideration by the Bureau teams when placement in L.Y. Cairns was recommended were;

1. Social/emotional maturity or rather, immaturity as demonstrated by classroom behaviors and peer interactions.

2. Chronological age - At the time this study was done students had to be 12.0 years as of September 1 to be admitted.
3. Mental age as measured by the WISC-R or Stanford-Binet had to range between 50 and 75 ±5.
4. Academic levels of functioning had to be delayed by at least 2 years.

Students recommended by Bureau Services for placement at L.Y. Cairns were further screened through Student Placement in central office and finally through the counselor for junior students at L.Y. Cairns under the supervision of the Guidance Department Head. The above criteria were used by individuals at all stages in the placement process.

Grouping of the Subjects

Once assessment was complete the students were placed in classes. The student - teacher ratio in academic classes at the junior level was 12 to 1 and in vocational classes was 10 to 1. Homeroom groupings at both year 1 and year 2 levels were homogeneously arranged in terms of academic levels in reading and math and IQ scores. Additional factors taken into account at the Year 2 level were social/emotional factors (personality conflicts, "bad combinations") as Year 2 students were known factors having

spent a year in the program. The year 1 students were unknown factors being new to the school and program.

Design of the Study

The author's interest lay specifically in the self-concepts of the junior students in the initial stages of the L.Y. Cairns program. Testing began in September 1981 at the start of the school year and was completed in mid-December 1981. This test period, comprising the first four months of the program, was defined as "initial contact" by the author. According to Holt (1968) initial contact with the school and program were critical for development of positive feelings of self-worth (Holt, 1968). Beyond exposure to the L.Y. Cairns program over four months no other formal intervention took place.

Three test sessions were employed to collect self-concept data. Initial self-concept testing began in the second week of September 1981 and continued over a 2 week period. Achievement testing normally carried out in June was done in December 1981 for the purpose of the study. All testing was done in the students' homeroom grouping.

Two additional self-concept testing sessions were performed; the first in early November 1981 over a 2 week period and the last in early December 1981, over a 1 week period.

All self-concept testing was done by the author. This maintained consistency of administrative procedures. It was also felt by administration to be in keeping with the author's role as counselor. Moreover it was hoped, that more factual answers (data) would be attained from the students if the teachers were not in the room and were not be allowed to see the actual test booklets. It was agreed with administration that results would be shared with the staff as a whole upon completion of the investigation.

Testing Procedures

All tests were administered in accordance with recommendations and instructions given in the test manuals. Both self-concept scales were administered by the author. The scales were read aloud to accomodate those students with reading difficulties.

Various words and phrases in each scale were defined for individuals. This was done at their request to assist them in understanding the questions more accurately.

At the end of the test sessions, a dance was held for the juniors to thank them for their participation.

Data Collection

The data for this study was collected by the following methods;

1. The self-concept information was collected through group testing procedure over 3 test sessions by the author.
2. The achievement scores were collected from in-class group testing in September and December. Testing was carried out by home room teachers, compiled and then filed confidentially in the guidance office.
3. The WISC-R scores were acquired from the confidential files of the students. All intellectual testing was administered by Bureau Services personnel.
4. Birthdates and entry dates to special education were acquired from the confidential files kept in the guidance department.

Analysis of the Data

In order to determine the relationship between the various measures, Pearson-product moment correlations (Ferguson, 1981) were computed using the DEST 02 program in the Division of Educational Research Services program library.

To investigate the stability of test scores (PH, SPAS, WRAT-math, Sch SLR-A) a single factor ANOVA (ANOVA 14 in the program library) repeated measures design was used to determine whether the means were different across the

different test times. In addition, Pearson product moment correlation coefficients were computed between the various administrations and used as a measure of reliability, that is, stability (Sax, 1980).

To determine whether year 1 students differed from year 2 students on the various measures a one way analysis of variance was used (Ferguson, 1981, 234)

CHAPTER 4

RESULTS

The purpose of Chapter 4 was to present the results of analysis of the test data gathered for this study.

Table 1 provided descriptive statistics for year 1 and year 2 students.

Table 1

Descriptive Statistics for Year 1 and Year 2

	No. of Males	No. of Females	Group Total	Mean Age in mths.	Mean WISC-R IQ
Year 1	32	21	53	149.3	69.2
Year 2	43	27	70	160.5	66.7
Total	75	48	123	154.9	67.9

Year 1 contained 32 males and 21 females totalling 53 subjects. The mean age of the group in months was 149.3. The mean IQ as measured by the WISC-R of the group was 69.2. Year 2 contained 43 males and 27 females totalling 70 subjects. The mean age of the group in months was 160.5. The mean IQ as measured by the WISC-R of the group was 66.7.

The total sample contained 75 males and 48 females totalling 123 subjects. The mean age of the total sample was 154.9 months. The mean WISC-R IQ for the sample was 67.9.

Tables 2 and 3 presented the relationship between general and academic self-concept scores and the various measures. To answer question 1 in Chapter 1, regarding the relationship between the various measures, Pearson-product moment correlations were computed, between pairs of variables.

The Pearson product moment correlations between various measures for year 1 students were presented in Table 2.

Table 2

Pearson Product Moment Correlations

Between Various Measures - Year 1

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.00	-28	21	20	04	01	07	08	-29	50	40	42	39
2		1.00	-20	-18	06	-13	-26	-16	-16	07	-08	-12	-08
3			1.00	81	50	62*	67*	42*	02	13	-11	24	07
4				1.00	55	59*	76*	58*	-11	18	07	15	02
5					1.00	34*	52*	55*	-14	22	21	14	-01
6						1.00	71	36	03	10	-13	25	08
7							1.00	66	-10	13	03	19	07
8								1.00	-13	30*	35*	28*	13
9									1.00	-44	-33	-32	-25
10										1.00	74	59	65
11											1.00	44	55
12												1.00	82
13													1.00

* significant @ $\alpha \leq 0.05$

Code 1 WISC-R
2 Age in months
3 PH 1
4 PH 2
5 PH 3
6 SPAS1
7 SPAS2
8 SPAS3
9 Time in Special Ed - EPSB
10 WRAT 1
11 WRAT 2
12 Sch SLR-A-1
13 Sch SLR-A-2

A t-test was used to determine whether each correlation was statistically significantly different from zero. Alpha was set at 0.05.

Those measures for year 1 students between which there appeared to exist a statistically significant difference of relevance to the study were:

- the SPAS 1 and the PH 1 with a correlation of .62
- the SPAS 1 and the PH 2 with a correlation of .59
- the SPAS 1 and the PH 3 with a correlation of .34
- the SPAS 2 and the PH 1 with a correlation of .67
- the SPAS 2 and the PH 2 with a correlation of .76
- the SPAS 2 and the PH 3 with a correlation of .52
- the SPAS 3 and the PH 1 with a correlation of .42
- the SPAS 3 and the PH 2 with a correlation of .58
- the SPAS 3 and the PH 3 with a correlation of .55
- the SPAS 3 and WRAT-math 1 with a correlation of .30
- the SPAS 3 and WRAT-math 2 with a correlation of .35
- the SPAS 3 and Sch SLR-A 1 with a correlation of .28

There were no other statistically significant differences within Table 2 which were relevant to the study.

From Table 2 it was observed that a moderate positive relationship existed between the SPAS 2 and PH2 as suggested by the correlation of 0.76. A weaker, moderately positive relationship between the SPAS 1 and the PH1 indicated by the correlation of .62, was also obtained. The correlation

of .55 between the SPAS 3 and the PH3 represented a somewhat weak positive relationship between the 2 measures. Moreover, it was observed that all administrations of the PH correlated positively with all administrations of the SPAS. Those inter-administrational correlations were all statistically significantly different from zero at $\alpha \leq 0.05$.

In addition to the statistically, significant relationship between the self-concept measures, 3 other variables correlated significantly. The SPAS 3 and WRAT-math 1 were correlated weakly (0.30) as were the SPAS 3 and WRAT-math 2 (0.35) and the SPAS 3 and Sch SLR-A-1 (0.28). All other correlations were not statistically significant at $\alpha \leq 0.05$. For example, there was no relationship between IQ and general self-concept and between IQ and academic self-concept across the different testing times. All of these correlations hovered slightly above zero.

General and academic self-concept scores did not correlate with length of time in special education programs in EPSB system. Neither did general self-concept scores correlate with achievement scores.

On the other hand, the correlations between academic self-concept scores and math achievement scores (time 1 and time 2) and reading scores (time 1) were statistically significantly different from zero at $\alpha \leq 0.05$.

General and academic self-concept did not correlate significantly with age. These correlations were around 0.30 and although statistically significant, did not suggest a practical correlation. That is, a correlation of 0.30 between two measures, suggests that 9% of the variance of one measure is predictable from the variance of the second measure.

Table 3

Pearson Product Moment Correlations

Between Various Measures - Year 2

Table 3 contains Pearson Product Moment Correlations Between Various Measures for Year 2 Students.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.0	-11	04	09	-04	-17	-15	-12	-16	37	36	22	34
2		1.0	09	11	-01	02	02	01	-12	08	-01	10	-02
3			1.0	46	51	37*	44*	40*	-23	08	17	-02	01
4				1.0	44	36*	44*	40*	-36*	15	18	08	04
5					1.0	32*	44*	37*	-17	03	08	-10	-15
6						1.0	83	40	-12	-06	-16	14	-02
7							1.0	70	-18	00	-10	22	06
8								1.0	-17	03	-12	07	-10
9									1.0	-37	-45	-16	-08
10										1.0	76	41	33
11											1.0	36	43
12												1.0	84
13													1.0

* significant @ $\alpha \leq 0.05$

Code 1 WISC-R
2 Age in months
3 PH 1
4 PH 2
5 PH 3
6 SPAS1
7 SPAS2
8 SPAS3
9 Time in Special Ed - EPSB
10 WRAT 1
11 WRAT 2
12 Sch SLR-A-1
13 Sch SLR-A-2

The information presented in Table 3 was examined in the same fashion as Table 2. Those measures for year 2 students between which there appeared to exist a statistically significant relevant difference were:

- the SPAS 1 and the PH 1 with a correlation of .37
- the SPAS 1 and the PH 2 with a correlation of .36
- the SPAS 1 and the PH 3 with a correlation of .32
- the SPAS 2 and the PH 1 with a correlation of .44
- the SPAS 2 and the PH 2 with a correlation of .44
- the SPAS 2 and the PH 3 with a correlation of .44
- the SPAS 3 and the PH 1 with a correlation of .40
- the SPAS 3 and the PH 2 with a correlation of .40
- the SPAS 3 and the PH 3 with a correlation of .37
- length of time in program and PH 2 with a correlation of -.36

There were no other statistically significant differences in Table 3 which were relevant to the study.

For year 2 students all of the correlations between the 2 self-concept measures over the 3 test times were lower than those acquired for year 1 students. All of these correlations were statistically significantly different from zero @ $\alpha \leq 0.05$. The correlations ranged from 0.32 (PH3-SPAS1) to 0.44 (SPAS2-PH1,2,3). The correlation of 0.44 suggested that approximately 20% of the variance was common to both measures.

A correlation between length of time in the EPSB program and PH2 was -0.36. This could represent an experimental quirk in the PH2 administration.

Tables 4 - 7 inclusive presented the mean scores for year 1 and year 2 students for the measures of general self concept, academic self concept, math achievement and reading achievement respectively for the different testing times. A single factor ANOVA with repeated measures was used to analyze the data. The information presented in these tables along with the text attempted to answer queston 2, 3 and 4 in Chapter 1.

The mean general self-concept scores for the three different test times were reported in Table 4.

Table 4

Stability of General Self Concept Scores

For Year 1 and Year 2*

	Number	Time 1	Time 2	Time 3
Year 1	53	52.2 ±14.0	54.3 ±13.5	50.2 ±21.2
Year 2	70	52.0 ±13.9	53.7 ±14.5	52.4 ±17.8

*Reported as mean ± 1 Standard deviation.

From Table 4 it was observed that the mean general self-concept scores for year 1 students as measured by the PH were: Time 1 - 52.2, Time 2 - 54.3 and Time 3 - 50.2. These scores, when compared with the norming population of

the Piers Harris, translated to percentile rankings of: Time 1 - 46 percentile, Time 2 - 52 percentile, Time 3 - 41 percentile. These percentile rankings suggested that the self-concept score of the year 1 L.Y. Cairns Vocational school student was slightly below the mean self-concept score of the norming population at test time 1 (upon entrance to L.Y. Cairns). As of the second test time, their self-concept scores were slightly above the mean of the norming population. By the third test time, their self-concept scores had fallen even lower than they were upon entrance to the school. These changes in raw scores were not large when viewed from a practical perspective (4.1 points between Time 2 and 3, and 2.0 points between Time 1 and 3). However, a drop of 11 percentile rankings over a 5 to 6 weeks period and 5 percentile rankings over a period of 4 months would seem to indicate a significant change.

The mean general self-concept scores for year 2 students as measured by the PH (Table 4) were: Time 1 - 52.0, Time 2 - 53.7 and Time 3 - 52.4. These scores when compared with the norming population of the Piers-Harris, translated to percentile rankings of: Time 1 - 46 percentile, Time 2 - 49 percentile and Time 3 - 46 percentile. These percentile rankings, as the year 1 percentile rankings, were again slightly below the mean self-concept score for the norming population.

The initial percentile rankings (Time 1) were identical for both year levels. The pattern of self-concept score increase and then decrease established by year 1 students was the same for year 2 students as well. The year 2 percentile rankings did not vary as greatly as the year 1 rankings did.

A single factor analysis of variance with repeated measures did not yield a significant ($\alpha \leq .05$) difference in the means for either year 1 or year 2 students.

A measure of stability was calculated by correlating test scores obtained from the same examinees over a period of time. If the examinees responded consistently from one administration of a test to another administration of the same test, the correlation between the scores would be high.

From Table 2 it was observed that the correlation between time 1 and time 2 scores for year 1 examinees was 0.81, between time 1 and time 3 scores was 0.50 and between time 2 and time 3 scores was 0.55.

The mean general self-concept scores for year 1 examinees across the 3 testing times would appear to suggest that the scores were somewhat stable over time. The correlation between the scores across the administrations suggested that student scores were similar between time 1 and time 2. That is, students with high scores on time 1 administration had generally high scores on Time 2

administration. The remaining correlations as was observed, decreased from the 0.81. Considering that reliability coefficients have a maximum of 1.00, the latter 2 coefficients of 0.50 and 0.55 were not all that respectable. This indicated that overall, the general self concept scores for year 1 examinees, as derived from the Piers-Harris were not that stable.

For year 2 examinees, the correlation between time 1 and time 2 scores was 0.46; between time 1 and time 3 scores was 0.51 and between time 2 and 3 was 0.44. The reliability coefficients for year 2 examinees across the 3 test times would suggest that the mean self-concept scores obtained for year 2 students were not that stable over time.

These reliability coefficients were lower for year 2 students than for year 1 students, suggesting that year 2 student's general self-concept scores were even less stable than year 1 student's scores. Remembering that these reliability coefficients were calculated to determine response consistency, it could be said that year 2 students responded less consistently than year 1 students. Response consistency or stability on the Piers-Harris general self-concept scale, as with other self-reporting scales, depended on the subjects' capacity to understand the test items, honesty and self-awareness.

The mean academic self concept scores for the 3 test sessions were reported in Table 5.

Table 5

Stability of Academic Self Concept Scores

For Year 1 and Year 2*

	Number	Time 1	Time 2	Time 3
Year 1	53	45.8 ±14.0	46.8 ±11.2	47.4 ±10.9
Year 2	70	41.3 ±12.3	46.2 ±13.2	46.3 ±11.8

*Reported as mean ± 1 Standard deviation.

From Table 4 it was observed that the mean academic self-concept scores for year 1 students as measured by the SPAS were: Time 1 - 45.8, Time 2 - 46.8 and Time 3 - 47.4. These scores when compared with the norming population of the SPAS, translated to percentile rankings of: Time 1 - 47 percentile for boys and 39 percentile for girls, Time 2 - 50 percentile for boys and 42 percentile for girls and Time 3 - 50 percentile for boys and 42 percentile for girls.

For year 1 students, these percentile rankings illustrated a slight, though definite increase in academic self-concept which was maintained between Time 2 and 3 unlike the mean general self-concept scores. These percentile rankings fell within the average range of the average student.

Year 2 students acquired mean academic self-concept scores of: Time 1 - 41.3, Time 2 - 46.2 and Time 3 - 46.3. These scores when translated to percentile rankings were: Time 1 - 34 percentile for boys and 25 percentile for girls, Time 2 - 47 percentile for boys and 39 percentile for girls, and Time 3 - 47 percentile for boys and 39 percentile for girls. Time 1 percentile scores were well below the mean SPAS scores of the norming population. Time 2 and 3 scores were still below the mean SPAS score for the norming population however, very much improved.

The pattern between the year 1 and year 2 mean SPAS scores was consistent showing an increase in academic self-concept which held over the last 2 test times. The year 1 students new to L.Y. Cairns Vocational School appeared to have a stronger academic self-concept than the year 2 students who had spent a year in the school.

The increase of year 2 student percentile ranking was greater (13 percentiles) than the year 1 increase (3 percentiles)

For year 1, the single factor analysis of variance with repeated measures did not yield a significant difference between the mean scores over the 3 testing sessions. However, there was a statistically significant difference ($\alpha \leq .05$) for year 2. This significant difference existed

between time 1 and 2 scores and between time 1 and 3 scores but not for time 2 and time 3 scores.

To obtain a further measure of stability the correlation of test scores by the same examinees over a period of time was acquired. Again, as was stated previously, if the examinees responded consistently, the correlation between the scores would be high.

From Table 2 it was observed that the correlation between time 1 and time 2 scores on the SPAS for year 1 examinees was 0.71, between time 1 and time 3 scores was 0.36 and between time 2 and time 3 scores was 0.66.

For year 2 examinees, the correlation between time 1 and time 2 scores was 0.83, between time 1 and time 3 scores was 0.40 and between time 2 and time 3 scores was 0.70.

The correlation of 0.71 for mean academic self-concept scores for year 1 students between time 1 and time 2 indicated student scores were somewhat similar. The correlation of 0.66 between time 2 and time 3 scores supported this to a lesser degree. The correlation of 0.36 between time 1 and time 3 scores was not all that strong indicating the scores were less similar than the previous 2 correlations indicated. Generally these results indicated that year 1 academic self-concept scores were not that stable over time.

For year 2 students the correlation of 0.83 for mean academic self-concept scores between time 1 and time 2 tests suggests that student scores were similar. Correlations decreased from 0.83 to 0.70 between time 2 and time 3. This correlation of 0.70 while indicating a greater instability of scores than the previous correlation still represented a reasonable relationship. The final correlation of 0.40 between time 1 and time 3 suggested only some similarity between test time scores. Generally these results suggest year 2 academic self-concept scores as measured by the Student's Perception of Ability Scale were fairly stable.

The mean math - WRAT scores for the two different test times were reported in Table 6.

Table 6

Stability of Math-WRAT Scores

For year 1 and year 2 students

	Time 1	Time 2
Year 1	3.2 ±0.8	3.5 ±0.9
Year 2	3.4 ±0.9	3.8 ±0.9

A single factor analysis of variance with repeated measures did yield a significant ($\alpha \leq .05$) difference between the means for both year 1 and year 2 students.

To further measure stability over time the test scores of the same examinees from both test sessions were

correlated. The correlation between the scores would be high if the examinees responded consistently.

From Table 2, the correlation for year 1 students between time 1 and time 2 math-WRAT scores was 0.74. For year 2 students, the correlation between time 1 and time 2 math-WRAT scores was 0.76.

The correlations of 0.74 for year 1 students and 0.76 for year 2 students on the WRAT-math scores over 2 test sessions suggest that scores were fairly stable over time.

The mean Schonell Silent Reading A scores for two different test times were reported in Table 7.

Table 7

Stability of Schonell Silent Reading A Scores for year 1 and year 2 students

	Time 1	Time 2
Year 1	2.8 ±1.2	3.1 ±1.3
Year 2	2.8 ±1.2	3.1 ±1.4

A single factor analysis of variance with repeated measures did yield a significant ($\alpha \leq .05$) difference between the means for both year 1 and year 2 students. Correlations of test scores from the same examinees for both test sessions were attained as further evidence of stability. High correlations indicated response consistency on the part of the examinees.

From Table 2, time 1 and time 2 Schonell Silent Reading A scores for year 1 students yielded a correlation of 0.82. For year 2 students, the correlation between time 1 and time 2 reading scores was 0.84.

The correlations of 0.82 for year 1 students and 0.94 for year 2 students on the Schonell Silent Reading Test-A over 2 test sessions were stable over time.

In order to determine whether there were any differences between year 1 and year 2 students on the measures of general self concept (3 administrations), academic self concept (3 administrations) math achievements (2 administrations) and reading achievements (2 administrations) a one-way ANOVA was used to analyze the data. The results were presented in Table 8. The information presented there was in response to question 5 presented in Chapter 1.

Table 8 contained the mean test scores for both year 1 and year 2 students on each variable relevant to the study.

Table 8

Differences Between Year 1 and Year 2 Means on Various Measures

Variable	Year 1 Means	Year 2 Means	Difference
Piers-Harris 1	52.2	52.0	N/S *
Piers-Harris 2	54.3	53.7	N/S
Piers-Harris 3	52.4	50.2	N/S
Students' Perception of Ability Scale 1	45.8	41.3	N/S
Students' Perception of Ability Scale 2	46.8	46.2	N/S
Students' Perception of Ability Scale 3	47.4	46.3	N/S
WRAT - math 1	3.2	3.4	N/S
WRAT - math 2	3.5	3.8	N/S
Schonell Silent Reading Test A-1	2.9	2.8	N/S
Schonell Silent Reading Test A-2	3.1	3.1	N/S

* N/S = Not significant

As can be seen from examining Table 8 no significant differences exist between year 1 and year 2 students in regards to any of the variables. This suggested that the junior students of L.Y. Cairns were a fairly homogeneous group in terms of the variables investigated.

CHAPTER 5

SUMMARY

The purpose of this study was to investigate the nature of the self-concept of the slow-learning (EMH) student attendng a segregated vocational junior/senior high school (L.Y. Cairns Vocational School).

Specific questions were asked regarding;

1. the general (PH) and academic (SPAS) self-concepts of new students to L.Y. Cairns and of year 2 students.
2. the influence of variables such as length of time in special education, IQ (WISC-R), achievement in math (WRAT-math) and reading (Sch SLR-A) and age, on academic (SPAS) and general (PH) self-concept.
3. and the effect of a segregated vocational junior high school (L.Y. Cairns) program on general (PH) and academic (SPAS) self-concept.

The relationships between IQ, general self-concept, academic self-concept, length of time in special education and in L.Y. Cairns math achievement, reading achievement and age were examined through the computation of a Pearson-product moment correlation and a single factor ANOVA with repeated measures.

Self-Concept and IQ

The correlations between IQ and both general and academic self-concept of EMH students proved not significant at alpha ≤ .05. These results were consistent with those of Crockett and Guthrie (1975). Bentler (1972), as well, found no significant relationship between IQ measures and self-concept as measured by the Piers-Harris. Jastak and Jastak (1977) found very "low to negligible" correlations of .13 to .295 between IQ (WISC-R) and the SPAS. This suggested that self-concept, be it general or academic was not significantly influenced by intellectual capacity. For the purpose of this study then, the measured intellectual capacity of the slow learning individual did not appear to relate to how that person felt about him/herself. Theoretical Assumption 5 that ability was related to self-concept was disproven through these findings.

There may be a somewhat more significant link between IQ and self-concept in the average student (Crockett and Guthrie, 1975). This difference between EMH and average ability students suggested that slow learning students derived their self-concept from sources other than those measured by IQ tests such as the WISC-R. Further research into self-concept sources of the EMH individual would assist in clarifying not only the nature of self-concept of

the slow learning person but also the nature of self-concept in general.

General and Academic Self-Concept

A comparison of general (PH) self-concept scores and academic self-concept scores (SPAS) for year 1 students over 3 test times yielded statistically significant ($\alpha \leq .05$) correlations ranging from 0.34 to 0.76 in value. These values suggested low moderate relationships between general and academic self-concept. Examining the 2 scales scores administration by administration revealed an increasingly positive relationship (SPAS1 - PH1 = 0.62, SPAS2 - PH2 = 0.76) until the third administration. At this point the relationship between the two measures appeared to diminish (SPAS3 - PH3 = 0.55). This could indicate some change in the year 1 group between time 2 and time 3 with regard to their general and/or academic self-concept.

Examination of the general and academic self-concept scores of year 2 students over the 3 test times again yielded statistically significant correlations ranging from 0.32 to 0.44. These correlations while lower than the year 1 correlations indicating a somewhat weaker relationship between the two scales, followed a similar pattern - (SPAS1 - PH1 = 0.37, SPAS2 - PH2 = 0.44, SPAS3 - PH3 = 0.37). That is, the relationship between the two scores began to strengthen from time 1 to time 2. It then appeared to

weaken during time 3 although not as greatly as with the year 1's.

Table 9 shows the previously discussed correlations.

Table 9

Significant ($\alpha \leq .05$) Correlations of Academic and General Self-Concept Scores

	SPAS1-PH1	SPAS2-PH2	SPAS3-PH3
Year 1	0.62	0.76	0.55
Year 2	0.37	0.44	0.37

Boersma and Chapman (1977) found the SPAS and the PH to correlate only minimally (.029 to .078). The correlations acquired in this study do not correspond to those computed by Boersma and Chapman (1977). The results from this study indicated a fair degree of overlap between the two scales (.37 - .76).

They concluded from their findings that scales measured 2 different domains. From the findings of this study that conclusion does not appear warrented.

A small overlap between scales should exist as the Piers-Harris has 1 subscale which deals with academic self-concept and the Student's Perception of Ability Scale does purport to measure academic self-concept Theoretical Assumption 7, general and academic self-concept were related, does seem accurate from these research results.

Time in Special Education and General and Academic Self-Concept

The next question dealt with the relationship of general self-concept at the year 1 and 2 level and length of time in the L.Y. Cairns program and in EPSB special education classes. No significant relationship was observed between length of time in the EPSB and PH1, 2, or 3 for year 1. At the year 2 level, the length of time in special education EPSB correlated significantly and negatively (-0.36) for time 2 only. While a very low correlation, this suggested an inverse relationship between the two variables. That is, as length of time in special education increased, general self-concept decreased. However, it more likely represented a quirk in test administration. No measurable effect of length of time in special education classes on general self-concept could be observed. Students appeared to possess an only slightly below average general self-concept. The same observation held true with regard to academic self-concept. Length of time in special education programs and academic self-concept did not reveal a significant relationship. Thus, Theoretical Assumption 6 "Time spent in special education classes would affect general and academic self-concept", was not proven accurate.

Self-Concept and School Achievement

An examination of the relationships between general self-concept (PH) and math (WRAT) and reading achievement (Sch, SLR-A) for both year 1 and year 2 students yielded virtually no significant results suggesting that changes in general self-concept scores did not correspond to changes in academic achievement scores in math and reading.

A weak relationship between academic self-concept scores and achievement scores at the year 1 level was apparent. The SPAS 3 showed a significant correlation with WRAT-math 1 and 2 (.30 and .35 respectively) and a significant correlation of .35 with Sch SLR-A 1. These correlations while positive, were weak and when considered to be 3 out of 12 tested relationships were negligible.

Generally, it could be stated that no strongly statistically significant relationship was established between general and academic self-concept and academic achievement. These findings supported the body of research stating that self-concept and school achievement were weakly or were not related at all (Erhartic, 1978) (Wheeler and Reilly, 1980) (Woodich, 1975). Theoretical assumption 3, school achievement was related to general and academic self-concept was not strongly supported.

Stability of Self-Concept-General and Academic

Stability of general and academic self-concept over time was computed for both year 1 and year 2 students and found to be statistically, somewhat unstable over the 3 test times. An examination of the mean raw scores for the Piers-Harris (table 4) showed variation of .2 to 4 points. According to Piers-Harris (1969), as was mentioned in Chapter 2, scores naturally show an increase of about 5 points. A 10 point score change was seen as necessary to indicate a notable change in self-concept. While raw scores did not change to that degree, percentile rankings changed 11 percentile rankings between Time 2 and Time 3. Piers and Harris' (1977) observed that global self-concept appeared to stabilize prior to junior high age. Results of this study indicated some instability of global general self-concept scores.

An examination of the mean academic self-concept scores over time revealed variances of, at maximum, 5 points. Boersma and Chapman, (1979) did not specify as Piers and Harris (1969) did, a minimal score change necessary to consider a score difference important. However, looking at percentile rankings, changes of up to 13 percentile rankings between test times.

Stability of Mean Math and Reading Achievement Scores

Examinations of the mean math and reading achievement scores over 2 test times revealed them all to be quite stable, statistically. The mean raw scores, in actuality showed positive changes of about 3 to 4 months. Considering the slower learning rate of EMH students (1/3 - 1/2 a grade level gains per 10 month school year) these scores reflected good gains academically.

It appeared that good academic gains showed corresponding consistent gains in academic self-concept but not in general self-concept scores. An explanation for these results might arise out of the length of time over which the testing occurred. An additional explanation might have arisen from the students' increased awareness of the stigma attached to attending a segregated vocational school such as L.Y. Cairns. Two other possible influences on the test results were the issuing of report cards just prior to the third time and the possibility of the researcher biasing results unconciously. The stability of the academic self-concept scores between Time 2 and Time 3 suggested that report card marks, at least in academic areas, did not influence general self-concept scores. The influence possibly came from some other source.

Discussion

As was stated in Chapter 2, research into the self often failed to produce significant results or to clarify underlying theory (Scheirer and Kraut, 1979) due to methodological problems and lack of clearly defined constructs and process. Methodological problems encountered in this study were investigator bias and inability to insure authentic subject response.

Theoretically, the findings regarding stability of general self-concept over time did not support Shavelson and Bolus' (1982) contention. It was expected that the academic self-concept being more specific than the general self-concept, would be less stable. This, however, was not the case.

With regard to insight into the development of self-concept of the slow learning (EMH) student, this study added weight to the belief that general self-concept was fairly instable at junior high level.

To determine the source of instability more insight into self-concept changes could have been achieved through examination of subscales scores. In addition, the specific nature of change may be more clearly observed if scores were examined on a per classroom basis rather than having all scores pooled (Rogers, Smith and Coleman, 1978).

The relationship between length of time in special

education and self-concept may have been more significant. If subjects were examined in groups defined by entry periods to special education, a clearer or different picture of the effect of length of time might ensue, particularily if this were coupled with an examination of subscale scores on the self-concept measures.

For example, students may enter special education at different points in their education for different reasons (Daws, 1975). An early entry to special education could indicate a greater degree of intellectual handicap than a middle entry student who might be placed due to poor attending behaviors and disruptive classroom influence. A late entry student could be placed in special education due to emotional problems which have negatively influenced the learning process. Each of the groups would have a degree of positive self-concept established, but each from a different source. The first group possibly though attendence in special education (a protected environment), might feel good about most aspects of themselves. The second group might have experienced more academic failure but had successes in the regular class which the first group wouldn't have had. Thus, their global self-concept scores might be the same, but their subscale self-concept profile might be completely different. This would be an interesting follow-up study which would contribute to

knowledge in the field of self-concept.

Regarding self-concept and school achievement, this study contributed to the body of literature finding a relationship between the two. The nature of the relationship between self-concept and school achievement needed further investigation into the issue of causality.

The conceptualization of an academic self-concept was a step towards gaining a perspective of the relationship of school related experiences to the overall concept of self. As educators, there was a tendency to see school as the cure to all ills and the key to significantly altering an individual's overall perception of themselves. It must be kept in mind that only one fifth of a child's sense of self was occupied by school related experience. That one fifth was also fifth in importance behind family recreation, demography, and friends and social relations in that order of importance (Beane, Lipka and Ludewig, 1981). The inclusion of an affective component in education was an important step in recognizing this. This affective component was strongly emphasized in the L.Y. Cairns program through the human relations program. The program dealt with social/emotional behavior and skill development in the areas of communication, family life, sex education, consumer education, community resources, values and a variety of other topics. Further research into the impact

of this program on overall educational functioning would contribute to the knowledge of the relationship between self-concept and school achievement.

The lack of relationship between IQ and self-concept may have reversed itself if, again, the sample had been examined in groupings of high, mid and low IQ groups. Global grouping tends to mask real variation within the sample.

To conclude, the relationship between self-concept and educational setting needs further investigation. Addition of a control group or a group in an alternate setting would give some basis of comparison and contrast. With the current move towards mainstreaming in the Edmonton Public School Board, a control group will soon become possible. Limiting the variables investigated, a more indepth analysis of data and investigation over a longer period of time - 1 year, or better yet, over the full 6 year program, would result in a more powerful investigation yielding more solid results. Pretesting subjects prior to entry to the program would also strengthen the design of the investigation. The inclusion of a comparison of marks in academic subjects with marks in vocational subjects over a period of time might reveal some interesting relationships between academic and vocational achievement and self-concept.

Review of Shavelson's et.al. (1976, 1982) self-concept

model gave rise to questions regarding the position of vocational type activities within that framework. The following figure illustrates Shavelson's framework of self-concept.

Following Porter's (1980) line of thought, vocational activities would provide the foundation of specific situations which would feed into the core subject areas, then into academic self-concept, and finally into general self-concept.

Possibly, the vocational areas such as woodworking, cooking, sewing were sub-areas of academic self-concept alongside English, History, Math, etc., still feeding into academic self-concept and then general self-concept. This line of thought had implications in the construction of general and academic self-concept scales. A subscale containing vocationally related items would need to be added.

A further possibility was the existence of more than just social/emotional and physical component to the non-academic self-concept. That is, possibly vocational/life skills self-concept would better fit under the non-academic self-concept.

A final possibility was the existence of a completely independent vocational self-concept with it's own subareas and the need for renaming of non-academic self-concept

something more specific.

The possible existence of a vocational/life skills self-concept had implications not only in self-concept theory but in self-concept scale construction and in curriculum development. The use of general and academic self-concept scales with vocational education students would remain of questionable value until the position of vocational type activities in the structure of self-concept was more clearly defined. These scales appear to be biased toward a particular value structure ensuring that individuals for whom academics was not a priority nor a strength would be poorly presented.

Thus, in future research, the use of a vocational/life skills self-concept scale in addition to the scales used (PH, SPAS) would provide a more complete picture of the individual and group under scrutiny.

The need for a vocational/life skills perspective for the slow learning (EMH) student has already been recognized through the mandated (1980) Alberta Special Education Curriculum. This will hopefully insure that mainstreamed slow learning students receive some vocational instruction. The quality of this instruction will depend on resources available to the school and teacher competencies in dealing not only with the demands of the curriculum but with the special affective needs of the slow learning (EMH) student.

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